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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/516,591

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Fumio Sakiya

121965

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EXAMINER

RUDAWITZ, JOSHUA I

ART UNIT

PAPER NUMBER

3652

MAIL DATE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/516,591	<b>Applicant(s)</b> SAKIYA, FUMIO	
	<b>Examiner</b> JOSHUA I. RUDAWITZ	<b>Art Unit</b> 3652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-3 and 5-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "sheet-like" is unclear, in that the examiner is not able to ascertain what structure would not fall under this limitation; for example, would any structure having a flat side meet the limitation? For the sake of examination, the examiner will construe the limitation of "sheet-like" to mean a substrate.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5-7, 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teruo et al. (JP A 2001-182978) in view of George et al. (U.S. Patent No. 5,507,847) in view of Ikeda et al. (U.S. Patent No. 6,190,104).

Teruo et al. (Teruo) discloses a clean transfer device, figure 2, including a casing 8 within which a cassette 1 is opened; a fan/filter unit 11 on the ceiling of the casing; a conveying robot 6 in the casing; a first floor, which is denoted in the

figure as a line through the mid-section of the base of the robot, though which air can pass, as denoted in the figure as arrows, in the casing and horizontally arranged on a lower side of an arm of the conveying robot at a middle height part of the conveying robot; the casing defines a first chamber between the first floor and the fan/ filter unit and a second chamber between the first floor and a bottom part of the casing through which air can pass between the second chamber and an outside of the bottom part of the casing; a door 1a on a wall of the first chamber that moves up and down, a door passage for the door, on the second chamber side and covered with a partition, as denoted in the figure as a vertical line to the left of the door; part of the clean air which flows into the second chamber is discharged to the casing bottom through the door passage; there is a gap between the door frame on the wall of the first chamber and the door; a second floor, shown at 12 in figure 1, provided in the case and in the vicinity of the bottom of the conveying robot, the second floor changes a degree of opening of the casing bottom part with respect to the outside through which air can pass through; the open space in the first floor is not less than 5% and not more than 50% of the total area of the first floor; the open space in the casing bottom is not less than 5% and not more than 70% of the total area of the casing bottom; the internal pressure of the first chamber is higher than the internal pressure of the second chamber, this is inherent due to the flow of clean air into and out of the chambers; the clean transfer device is included in a product manufacturing system 7.

Teruo fails to disclose the filter in the fan/ filter unit removes 99.999% particulates 0.1  $\mu\text{m}$  or above; the blowing speed of the clean air into the first chamber from the fan filter unit is not less than 0.1 m/sec and not more than 0.65 m/sec.

George et al (George) discloses a filter able to remove 99.999% particulates 0.1  $\mu\text{m}$  or above, see abstract; the blowing speed of the clean air into the first chamber from the fan filter unit is 100 ft/min (0.5 m/sec) (claim 14, ln 12-14) in order to allow for extremely clean environments for manufacturing needs (abstract). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of invention to use George's filter and fan speeds in Teruo's clean transfer device in order to allow for extremely clean environments for manufacturing needs.

The Teruo in view of George combination fails to disclose the width of the gap is in the range of 1 mm to 30 mm and the internal pressure of the second chamber is not less than 0.1 Pa. It would have been obvious to a person having ordinary skill in the art at the time of invention to have the gap in the range of 1mm – 30mm and the pressure in the second chamber less than 0.1 Pa, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

The Teruo in view of George combination fail to disclose the conveying robot includes a dust prevention seal, to the articulated portion of the arm, and a

vent hole, on the lower partition of the body that supports the arm, that is able to discharge air when it descends.

Ikeda et al. (Ikeda) discloses the conveying robot includes a dust prevention seal 44, in order to ensure nothing is able to enter from the outside, and a vent hole, on the lower partition of the body that supports the arm, cl. 8, ln. 13-15, that is able to discharge air when it descends, in order to allow additional wires and sensors to enter the vacuum area (cl. 8, ln. 17-22). Therefore it would have been obvious to a person having ordinary skill in the art, at the time of invention to include Ikeda's seal, in order to ensure nothing is able to enter from the outside, and vent hole in order to allow additional wires and sensors to enter the vacuum area in the Teruo in view of George combination.

5. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teruo et al. (JP A 2001-182978) in view of George et al. (U.S. Patent No. 5,507,847) in view of Ikeda et al. (U.S. Patent No. 6,190,104) in view of Rapisarda et al. (U.S. Patent Application Publication No. 2002/0108334).

With regards to claim 8:

The Teruo in view of George in view of Ikeda combination fails to teach the number of times of ventilation.

Rapisarda teaches the number of times of ventilation as 450 per hour, or 7.5 per minute in order to follow the requirement for Class 1 clean rooms. Therefore, it would have been obvious to a person having ordinary skill in the art, at the

Art Unit: 3652

time of invention, to have the number of times of ventilation follow Rapisarda's teaching of 7.5 per minute in order to follow the requirement for Class 1 clean rooms.

With regards to claim 11:

The Teruo in view of George in view of Ikeda combination discloses a degree of the opening part is not more than 20% of the wall, see figure 1 (Teruo).

The Teruo in view of George in view of Ikeda combination fail to disclose an internal pressure in the first chamber is not less than 0.1 Pa. It would have been obvious to a person having ordinary skill in the art at the time of invention to the pressure in the first chamber less than 0.1 Pa, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

The Teruo in view of George in view of Ikeda combination further fails to teach the number of times of ventilation.

Rapisarda teaches the number of times of ventilation as 450 per hour, or 7.5 per minute in order to follow the requirement for Class 1 clean rooms. Therefore, it would have been obvious to a person having ordinary skill in the art, at the time of invention, to have the number of times of ventilation follow Rapisarda's teaching of 7.5 per minute in order to follow the requirement for Class 1 clean rooms.

***Response to Arguments***

6. Applicant's arguments with respect to claims 1-3 and 5-11 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHUA I. RUDAWITZ whose telephone number is (571)272-7856. The examiner can normally be reached on Monday - Friday, 7:30 A.M. - 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saul Rodriguez can be reached on 571-272-7097. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. I. R./  
Examiner, Art Unit 3652

/Saúl J. Rodríguez/  
Supervisory Patent Examiner, Art  
Unit 3652



Application/Control Number: 10/516,591  
Art Unit: 3652

Page 8